

Name: Vignesh S

Regno: 192325002

**Experiment: 28. Implement a vehicle detection algorithm using Open CV to detect and locate vehicles in each frame of the video**

**Code:**

```
import cv2

v = cv2.VideoCapture("traffic.mp4")

bg = cv2.createBackgroundSubtractorMOG2()

while True:

    r, f = v.read()

    if not r:

        break

    m = bg.apply(f)

    c, _ = cv2.findContours(m, cv2.RETR_EXTERNAL, cv2.CHAIN_APPROX_SIMPLE)

    for x in c:

        if cv2.contourArea(x) > 3000:

            a, b, w, h = cv2.boundingRect(x)

            cv2.rectangle(f, (a, b), (a+w, b+h), (0, 255, 0), 2)

            cv2.putText(f, "Moving Vehicle", (a, b-5),

                        cv2.FONT_HERSHEY_SIMPLEX, 0.7, (0, 255, 0), 2)

    cv2.imshow("Vehicle Detection", f)

    if cv2.waitKey(30) == ord("q"):

        break

v.release()

cv2.destroyAllWindows()
```

**Input and Output:**

